Tech Fact Sheet

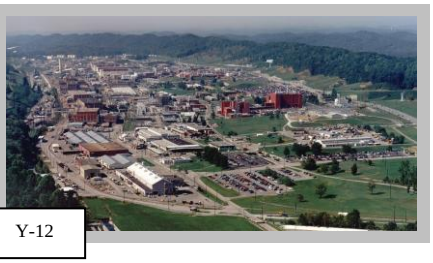
Oak Ridge National Laboratory — ***Tennessee***
Y-12 National Security Complex — ***Tennessee***

Assessment of the Integrated Facility Disposition Project at ORNL & Y-12 for Transfer of Facilities & Materials to EM

Challenge

In December 2007, the Assistant Secretary for Environmental Management (EM-1) invited the DOE Program Secretarial Offices (PSOs) of Nuclear Energy (NE), Science (SC), and the National Nuclear Security Administration (NNSA) to propose facilities and legacy waste for transfer to Environmental Management (EM) for final disposition or deactivation and decommissioning (D&D). In parallel with the EM-1 initiative, the Oak Ridge Reservation was conducting a Critical Decision-1 review of a large, highly complex project – the Integrated Facility Disposition Project (IFDP) – which proposed to complete cleanup of the Oak Ridge site over the next 26 years. In addition to current EM cleanup, IFDP incorporates cleanup scope currently owned or underway by NNSA, SC, and NE with the intent to transfer this scope to EM for completion. These transfers of facilities, materials, and waste to EM will generate liabilities that are currently unfunded. The impacts of proposed transfers with regard to technical difficulties, project risks, and range of cost have been evaluated. In addition, because EM's policy is to not accept proposed transfers for D&D until they are included in an annual budget, it was necessary to formulate a priority for the timing of transfers across the DOE complex.

ORNL



Y-12

Technical Solution

Conduct technical walkdowns of the facilities identified for transfer and perform assessments of these facilities. The assessments included the identification of: the bases for recommending transfer acceptance or rejection, pre-transfer stabilization conditions required to be met, and significant D&D risks and liabilities. There were a total of 234 facilities proposed for transfer which were comprised of approximately 4 million Gross Square Feet (GSF):

Site	Number	Approximate GSF
ORNL Proposed Transfers	137	801,700
Y-12 Proposed Transfers	97	3,201,500
Totals	234	4,003,200

Tech Accomplishments

Of the 234 proposed facility transfers, the EM Team identified 51 facilities, representing 262,200 GSF, that did not meet the transfer requirements of DOE O 430.1B; nevertheless, it was recommended that EM accept all facilities (with the exception of the Experimental Gas Cooled Reactor (EGCR) at ORNL) since they were in reasonable proximity with other facilities that met the criteria for transfer and the incremental cost and effort to include them was minimal in comparison to the contaminated facilities they are not a significant part of the total project cost thus contracting efficiency would be served by including them within the project.

Site Project & Identifier
Oak Ridge – Integrated Facilities Disposition Project

Tech Stage:
Technical Assistance

Impact

The IFDP project at ORNL and Y-12 includes facilities for which EM already has responsibility plus the transfers discussed above. The project has been estimated to cost as much as $8 - 15 billion, and take up to 26 years to complete. The D&D of these facilities will have a major impact with regard to footprint reduction, cleanup, and utility reconfiguration.

Lessons Learned

Due to the magnitude and complexity of the IFDP scope, it was recommended that alternative approaches be established jointly between EM and NNSA/SC/NE to contribute to overall project efficiency. Specifically, to meet the pre-transfer stabilization conditions (i.e., pre-D&D) that would normally be conducted by the transferring PSO, it was recommended that EM accept some, but not all, scope for the conduct of facility stabilization with funding contributed by the transferring PSO. This additional EM scope can improve project efficiency by smoothly transitioning from facility stabilization/cleanout, to deactivation, decommissioning and demolition. In situations where the transferring PSO retains personnel with skills and/or detailed facility-operating knowledge needed to conduct stabilization, the transferring PSO should retain responsibility.

Impact and Features

- Many of the facilities are not ready for D&D and require significant cleanout and stabilization which is the case for the Alpha and Beta buildings at Y-12 and hot cells and storage wells at ORNL
- Significant quantities of materials/waste are contained within the proposed facilities; their disposition will require a significant effort with the quantity to be removed by EM still to be determined
- Characterization, stabilization, and D&D at these facilities will require significant technical planning
- In order to support a reliable CD-2 baseline, several D&D activities will require substantial engineering/design
- Many of the buildings are structurally degraded, some to the point of limited or no human entry and as at K-25; these conditions can lead to a huge escalation of costs in comparison with more "normal" conditions
- Mercury and beryllium are more prevalent than would usually be found in excess facilities and as a result, will require significant hazardous material remediation efforts

Vendor/Provider Information:	C. A. Negin, Project Enhancement Corporation cnegin@pec1.net 240-686-3059
Technology/ Process Name:	Assessment of Facilities and Materials for Transfer to DOE-EM
Federal End User Information:	Andrew Szilagyi, EM-23 andrew.szilagyi@em.doe.gov 301-903-4278
Tech User Info:	Various
Web Links:	TBD
HQ Project Lead:	Andrew Szilagyi, EM-23 andrew.szilagyi@em.doe.gov 301-903-4278

Challenge Category	Tech Solution Category
• Deactivation • Decommissioning • Multiple Waste Streams	• Technical Review